EST3 Life Safety Platform

What is EST3

- **Emergency Communication Network Platform for:**
  - **Advanced Life Safety System**
  - **Emergency Evacuation**
  - **Security**
  - **Access Control**
  - **CCTV**
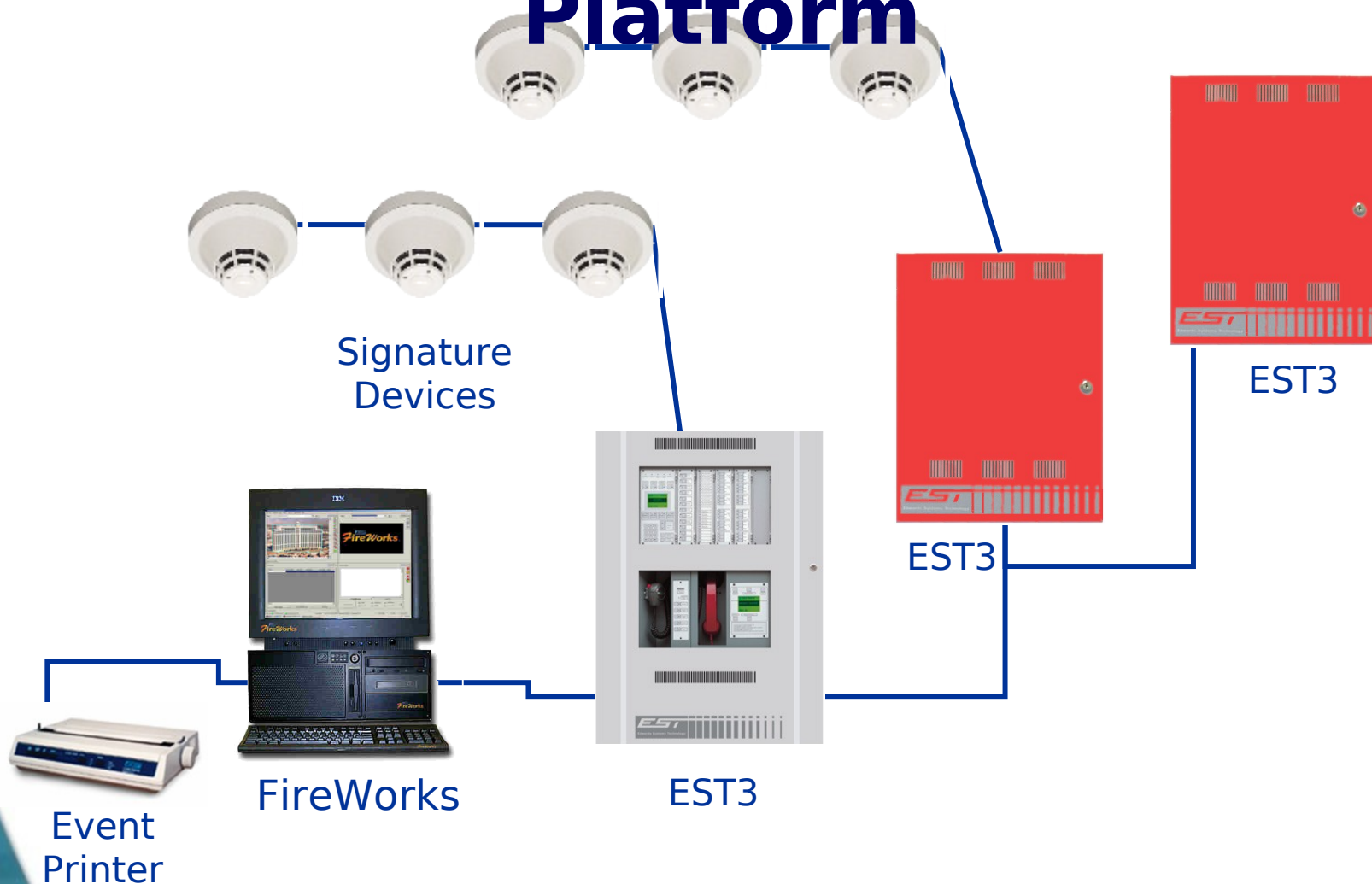 - **Fireworks Graphical Interface**

What is EST3 Life Safety

- **Emergency Communication**
- **Smoke and Fire Detection**
- **Sprinkler System Supervision**
- **Occupant Supervision, "Check-in"**

EST3 - The Synergy Enabled Life Safety Platform

Signature Devices

EST3

EST3

EST3

FireWorks

Event Printer

Global Market Objectives

- **International Standards**
- **Multilingual**
- **Modular Construction**
- **Site Configurable**
- **Fundamental Software Control**

EST3 General Features

- **Retrofit and New Construction**
- **Standalone or Network**
- **Conventional or Analog**
- **Bells, Horns, Speakers, Strobes**
- **Survivability**

EST3 Technical Advances

- **Lower Installation Costs**
- **Lower Owner Operating Costs**
- **Multi-Function Platform**
- **Multi-Priority Token Network**
- **Improved Response Times**
- **Improved Emergency Communications**
- **Signature Series Devices**
- **Windows Based System Programming**

Some New Terms

- **Node... A panel or cabinet /w CPU**
- **LRM... Local Rail Module**
- **CDM... Control Display Modules**

EST3 Applications
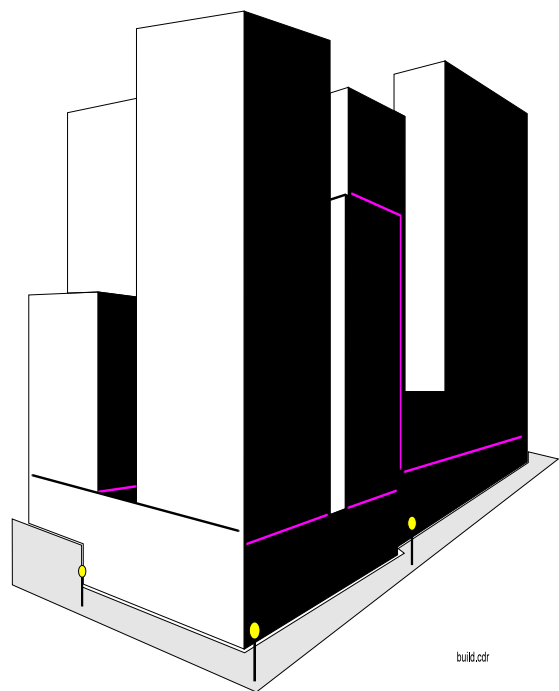
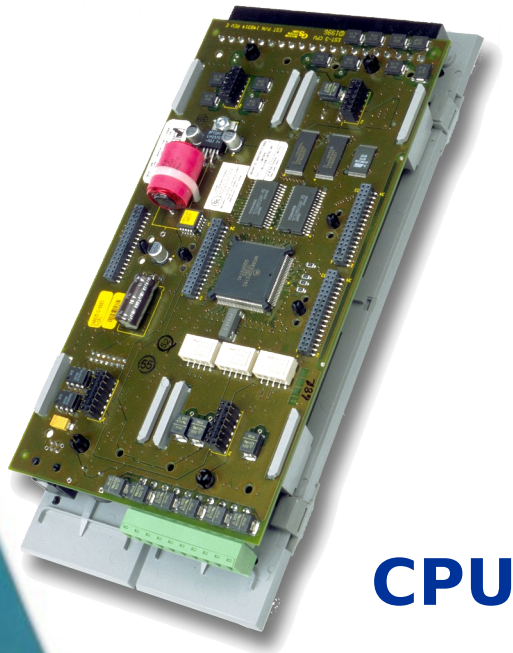- **In a word… flexible**
- **Serve medium to large multiple building systems**
- **Small systems**
- **Standalone systems**
- **Single network systems**
- **Multi-function network**
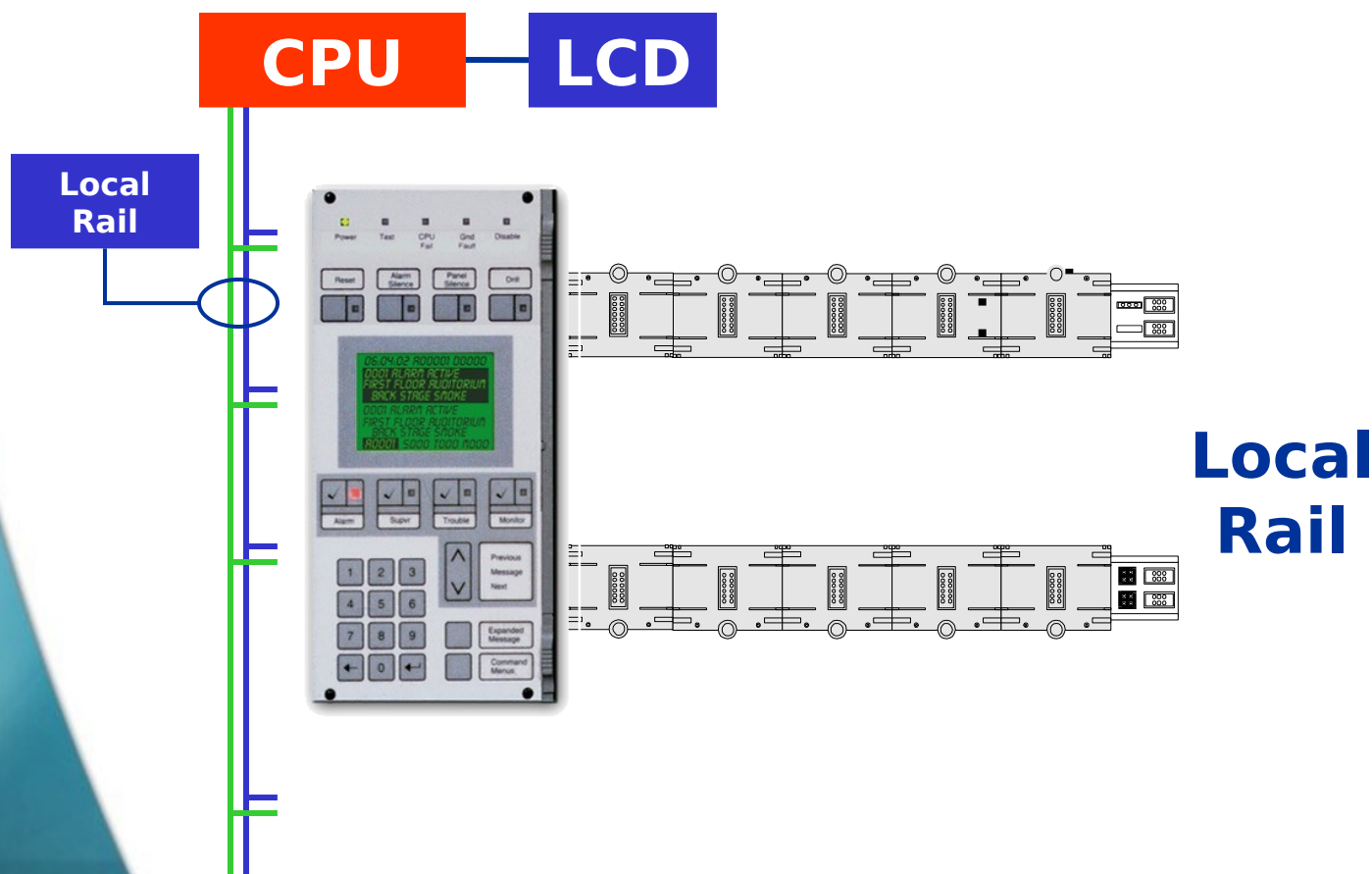- **Multiple network systems**

build.cdr

EST3 Node Architecture
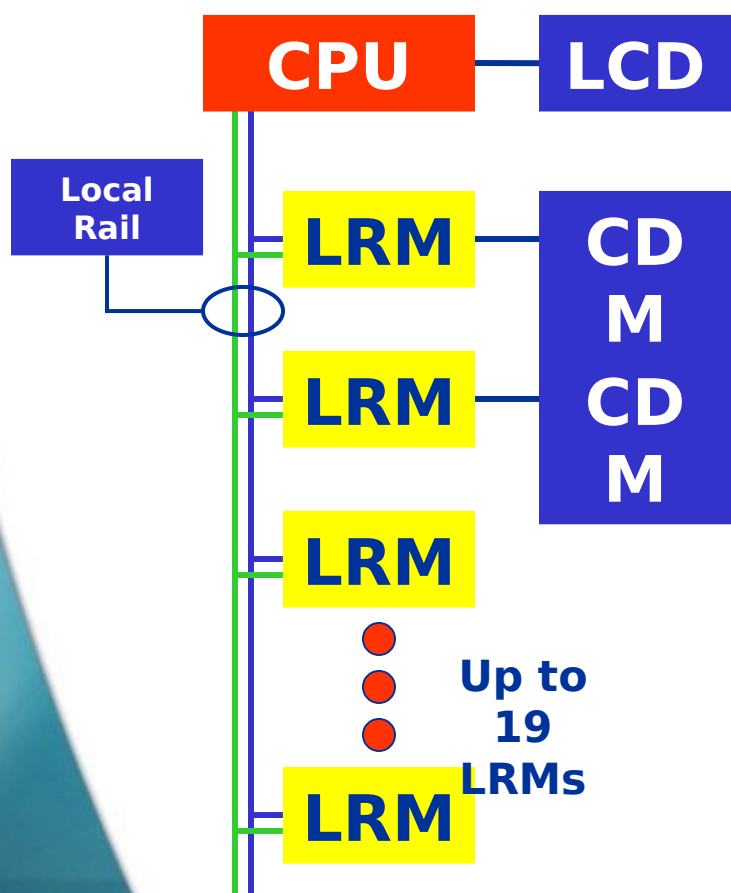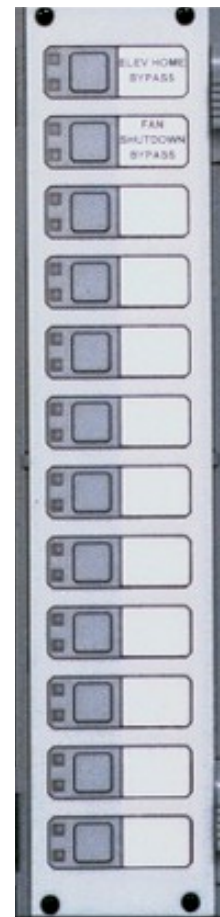

CPU — LCD

CPU

LCD

EST3 Node Architecture

CPU — **LCD**

Local Rail

Local Rail

EST3 Node Architecture

CPU

LCD

Local Rail

LRM — CDM CDM

LRM

LRM

● ● ●

Up to 19 LRMs

LRM
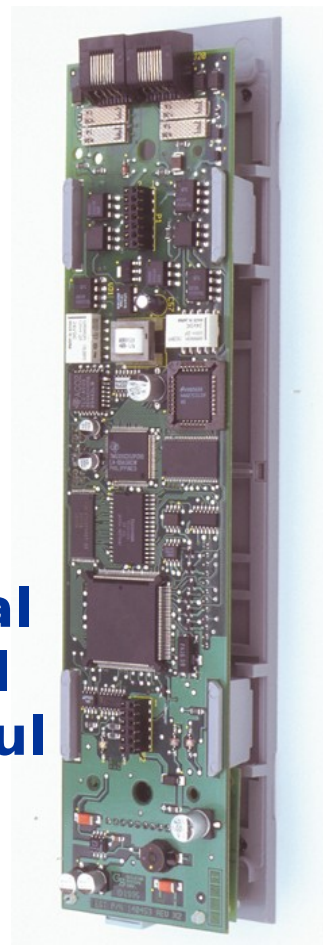
Local Rail Module

Control Display Module

EST3 Node Architecture

CPU — **LCD**

Node 1

Local Rail

LRM — **CDM CDM**

LRM

LRM

Up to 19 LRMs

LRM
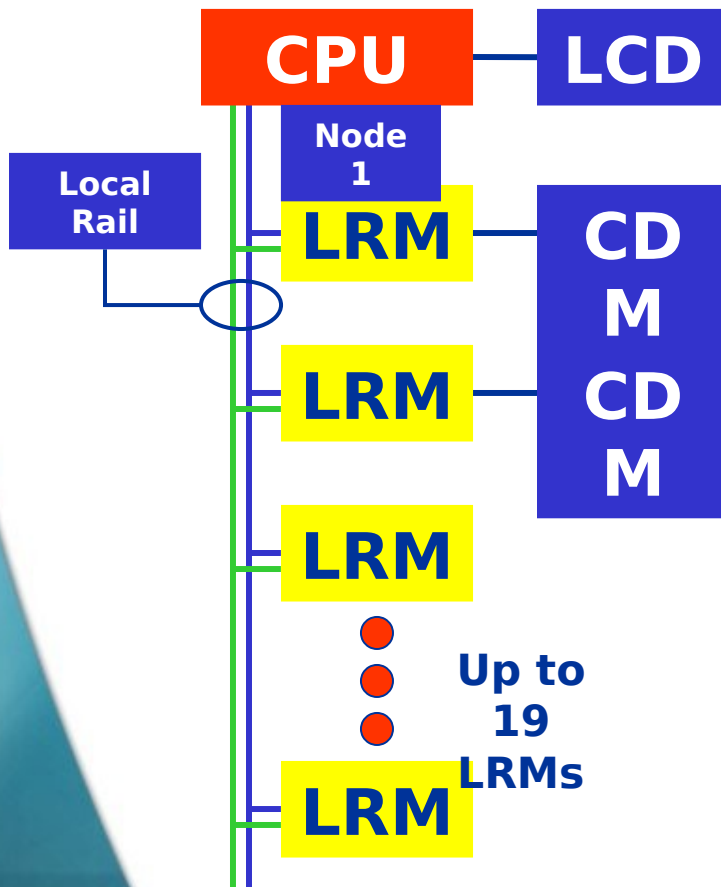
- **Stand Alone System**
- **Capacities**
  - **19 Local Rail Modules +CPU**
  - **5 SIGA Data Controllers 2 Loops per Controller 2 x 5 x 250 =2500 points**
  - **4 Power Supplies 4 x 7A = 28A**
  - **15 IDC8/4 Modules 15 x 8 =120 zones**

EST3 Network Architecture

- **64 x 2500 =160,000 points**
- **64 x 28 = 1792 A**
- **64 x 120 =7680 circuits**

Up to 64 Nodes

CPU — LCD
Local Rail
LRM — CDM
LRM — CDM
up to 19 LRMs Total
LRM

CPU
Local Rail
LRM
LRM — CDM
up to 19 LRMs Total
LRM

CPU
Local Rail
LRM
LRM
up to 19 LRMs Total
LRM

node2.cdr
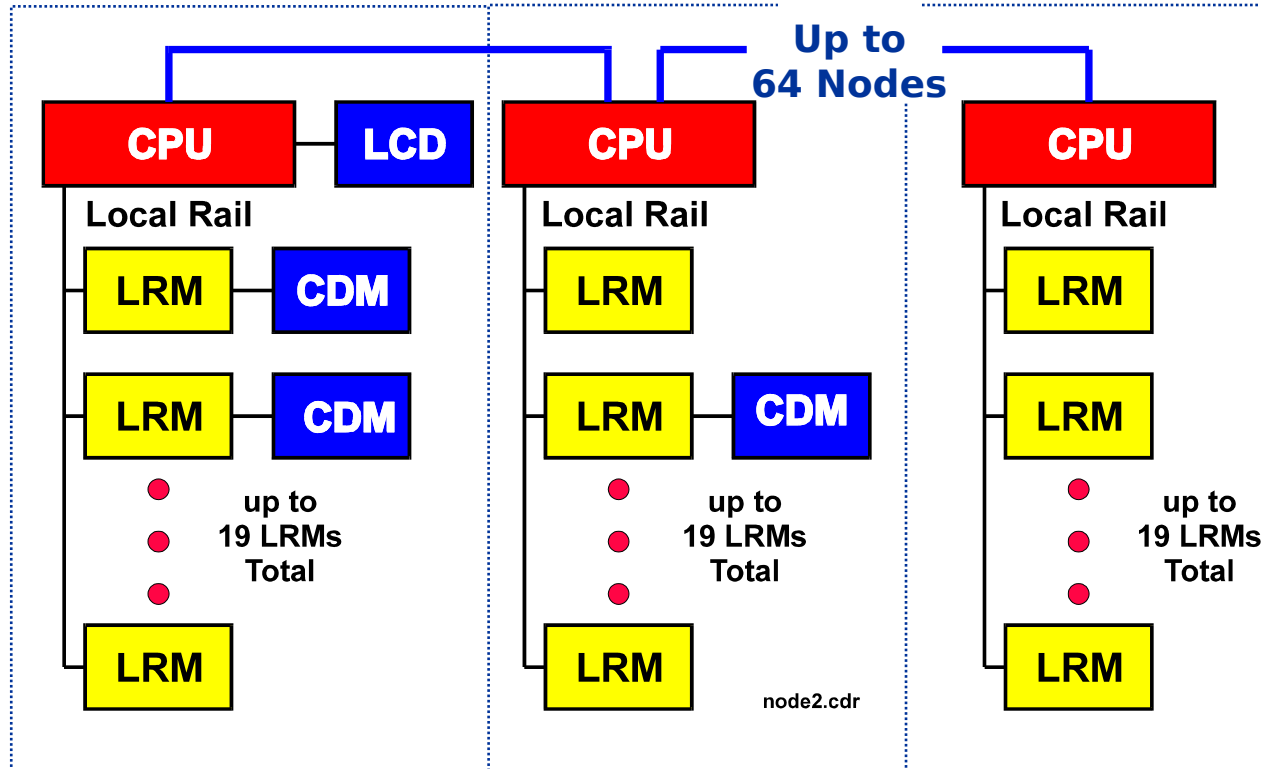
Multiple Node Network

- **Peer to peer network using multi-priority token**
- **Alarm response independent of node count**
- **Alarm response less than 3 seconds**

2 Fibers

2 Wires
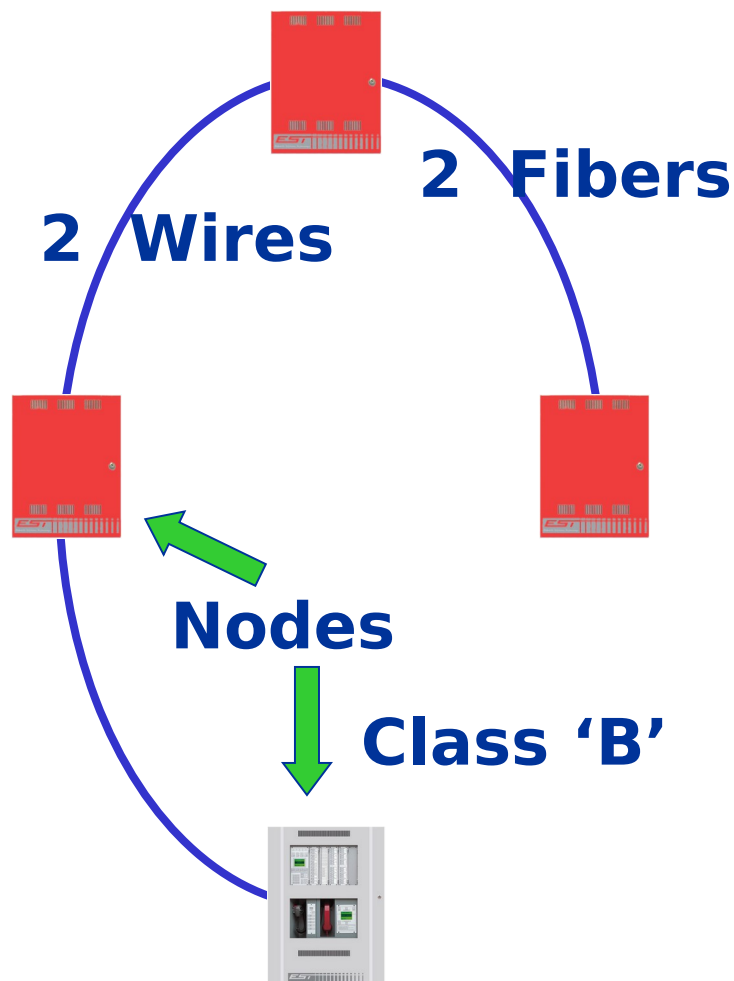
Nodes

Class 'B'

Multiple Node Network

5000' between any two nodes

- **RS485 Data Communications**
- **38.4 Kbaud**
- **Class 'B' two wire, Class 'A' close ring**
- **Re-transmission and isolation between nodes**
- **NEW Short Haul Modem, 5 miles**

2 Fibers

2 Wires

Nodes
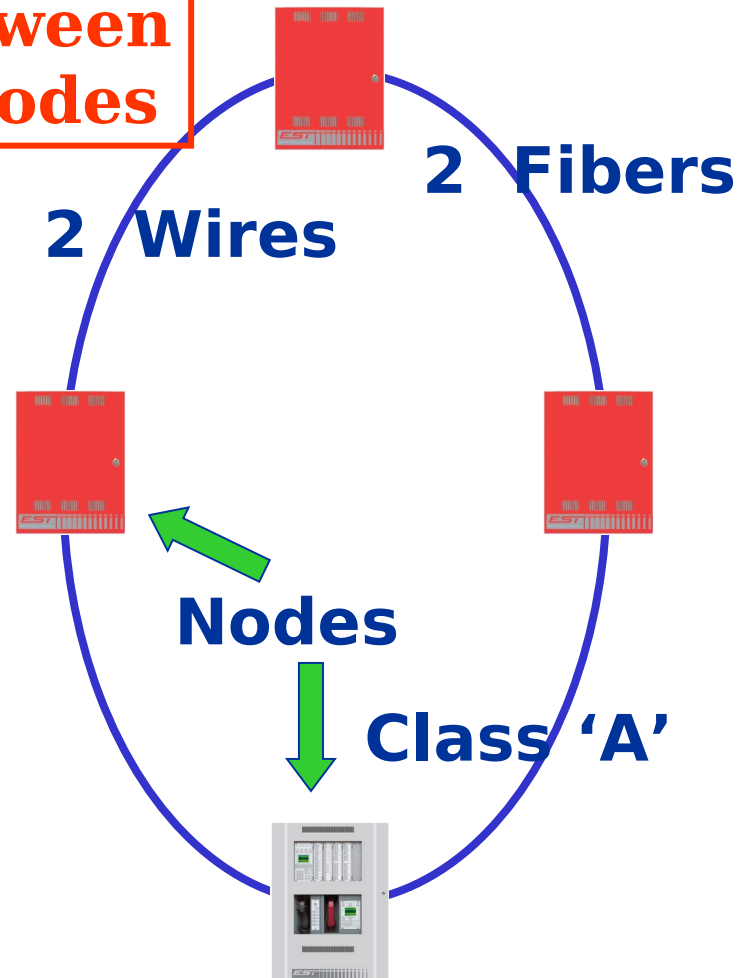
Class 'A'

Single Building Audio
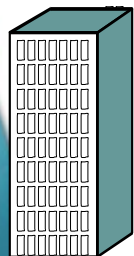
Audio Data

Network Data

Fire Phone Riser

- **High speed audio data is RS485 Class 'B' or 'A'**
- **Can use Fiber**
- **2 wire pair carries 8 audio channels**
- **Analog phone riser to SIG modules, Class 'B' or 'A'**

Single Building Network

- **Network Data**
  - Twisted Pair
  - 5000' between 3 nodes
- **Audio Data**
  - Twisted Pair
  - 5000' between 3 nodes
  - 8 Channel Audio
- **Analog Fire Phone**
  - Twisted Shielded
  - 4000'
  - Master Phone Line Riser to SIGA-CC1s

Network Data

Audio Data

Fire Phone Riser
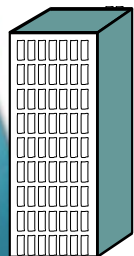
Multiple Building Network
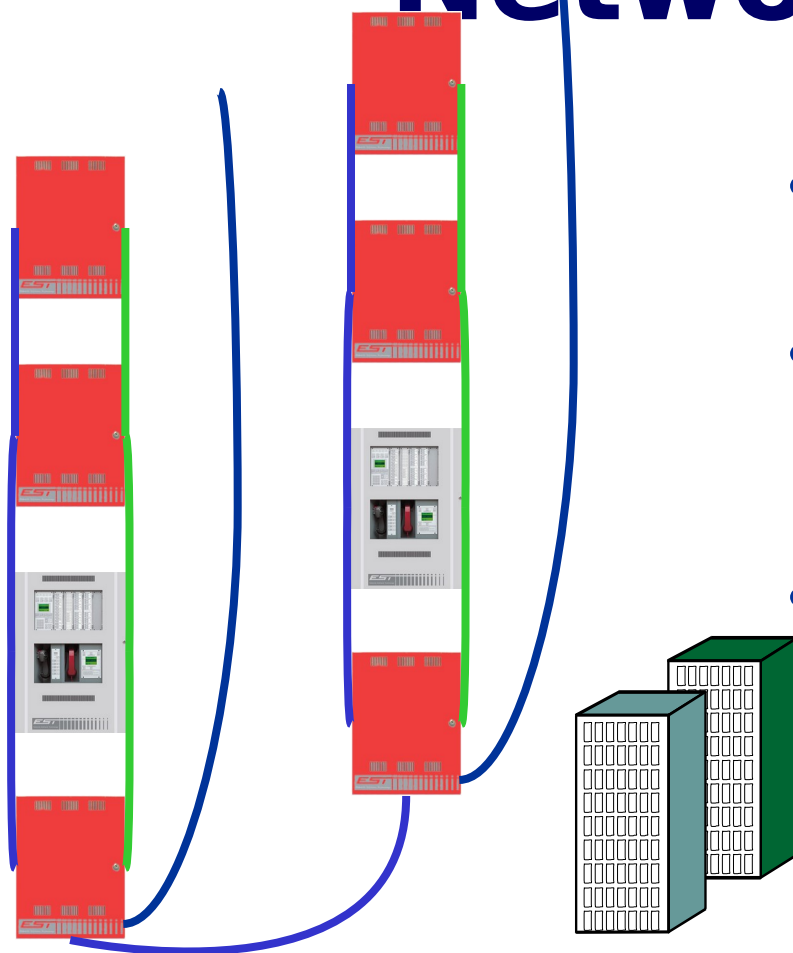
- **Multiple Control Panels**
- **Location Message Routing**
- **Overlapping Zone Controls**

EST3 Fire Functionality

- **Via Signature Data Circuit**
  - **Intelligent Smoke & Heat Detection**
    - **Very Intelligent**
  - **Manual Pull Stations, 1 & 2 Stage**
  - **N.O. Alarm Latching, Class 'B' or 'A'**
    - **For Alarm Contact Devices**
  - **N.O. Delayed Latching, Class 'B' or 'A'**
    - **For Waterflow /w electronic time delay**
  - **N.O. Active Latching, Class 'B' or 'A'**
    - **For Sprinkler Supervisory Contact Devices**

EST3 Fire Functionality

- **Via Signature Data Circuit**
  - **N.O. Active Non-latching, Class 'B' or 'A'**
    - **For Monitor Contacts such as air flow or damper position**
  - **Two-Wire Smoke, Verified Y/N, 'B' or 'A"**
    - **For Conventional two-wire smoke detectors**
  - **NAC, Audible, Visual or Auxillary, Class 'B' or 'A'**
    - **For polarized notification devices**
  - **Auxiliary Control Relays, Form 'C'**
    - **For Fan, Damper, Elevator control**
  - **Telephone Circuits /w Busy Signal**

EST3 Fire Functionality

- **Conventional Hardwire Circuits**
  - **Class 'B' Alarm, Supervisory, Monitor Inputs**
  - **Latching or Non-latching by circuit**
  - **Verified or Non-verified by circuit**
  - **European Operation, short as trouble**
  - **NAC, Audible, Visual, or Auxillary Class 'B'**
- **Zoned Audio Circuits**
  - **Class 'B' or 'A'**
  - **Allows delivery of multiple simultaneous messages**

EST3 Fire Functionality

- **Control Panel**
  - **8 x 21 Backlit LCD w/ FA Common Controls**
  - **optional conventional LED/switch control / display**
  - **audio source unit & fire fighter's telephone**

Programs & Tools

- **Programs**
  - **Each node contains firmware which is essentially an operating system**
  - **Project specific (data files) upload from a PC to system nodes**
- **System Definition Utility [SDU]**
  - **Creates project specific software**
  - **Up to 80% time saving over IRC**

System Definition Utility

- **Windows®-based**
- **Virtually any-point-to-any-point**
- **System management**
- **Market place**
- **Forms**
- **Common [alarm, supervisory, monitor]**
- **Zoning and multi-stage**

Project **Configure** **Rules** **Tools** **Reports** **Window** **Help**

Project Parameters

Description

Project Label Inn On The Bay

30-296-4020

Network

Baud Rate
38.4 Kbaud

Communications Class
- ◉ Class A
- ◯ Class B

Language
☒ Bilingual

Primary English U.S.

Secondary

Drill Cut Off	3	min.
Silence Inhibit	3	min.
Page Inhibit	3	min.
AC Power Delay	6	hrs.
User Time Out	0	sec.

Alarm Silence
- ◯ Audible Only
- ◉ Visual & Audible

Drill
- ◯ Audible Only
- ◉ Visual & Audible

☒ Water Flow Silence

Market Place
Description ISO Regulations

Conversion
Revision 0

✓ OK   ✗ Cancel

Labels and Rules

- **Label**
  - **Message "Floor 3"**
  - **Label '4L_Alarm_Floor_3'**
- **Rule**

  ALARM '4L_Alarm_Floor_3' :

  ON '4L_NAC_Floor_3' ;

Messages & Labels

Input Zone Labels   **Location Messages**   **Output Zone Labels**

Input Zone Labels	Location Messages	Output Zone Labels
7L_Alarm_Floor_6	Floor 6	7L_Nac_Floor_6
6L_Alarm_Floor_5	Floor 5	6L_Nac_Floor_5
5L_Alarm_Floor_4	Floor 4	5L_Nac_Floor_4
4L_Alarm_Floor_3	Floor 3	4L_Nac_Floor_3
3L_Alarm_Floor_2	Floor 2	3L_Nac_Floor_2
2L_Alarm_Floor_Gnd	Ground Floor	2L_Nac_Floor_Gnd
1L_Alarm_Floor_Base	Basement	1L_Nac_Floor_Base

Evac Rule - fire, above, below for 3rd Floor

[ALARM3]

ALARM '4L_Alarm_Floor_3' :

ON '5L_NAC_Floor_4',

ON '4L_NAC_Floor_3',

ON '3L_NAC_Floor_2';

Evac Rule -
Above, Fire, Below for Entire Building

[TOWER_ALARM]

ALARM '(n:1-7)L_Alarm_Floor_*' :

ON '(n+1)L_NAC_Floor_*',

ON '(n)L_NAC_Floor_*',

ON '(n-1)L_NAC_Floor_*';

Four Step Process

- **Define project parameters**
- **Configure cabinets, network routing, LRMs, devices & communication ports**
- **Define Objects such as Logical Zone, And, Matrix Groups, time controls**
- **Use Rules to establish relationships**

EST3 Life Safety Platform

EST3
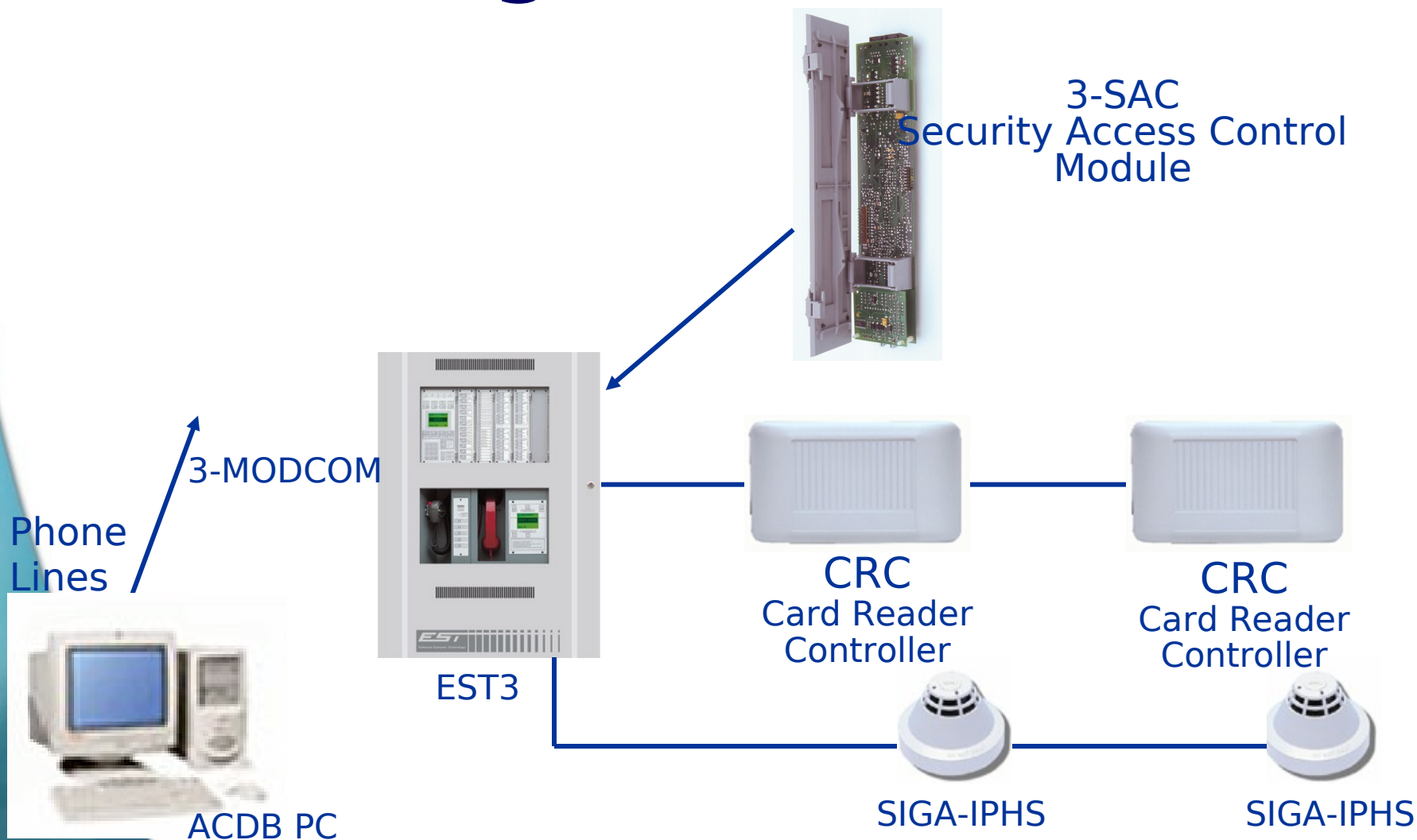# Off Premise Communications

3-MODCOM

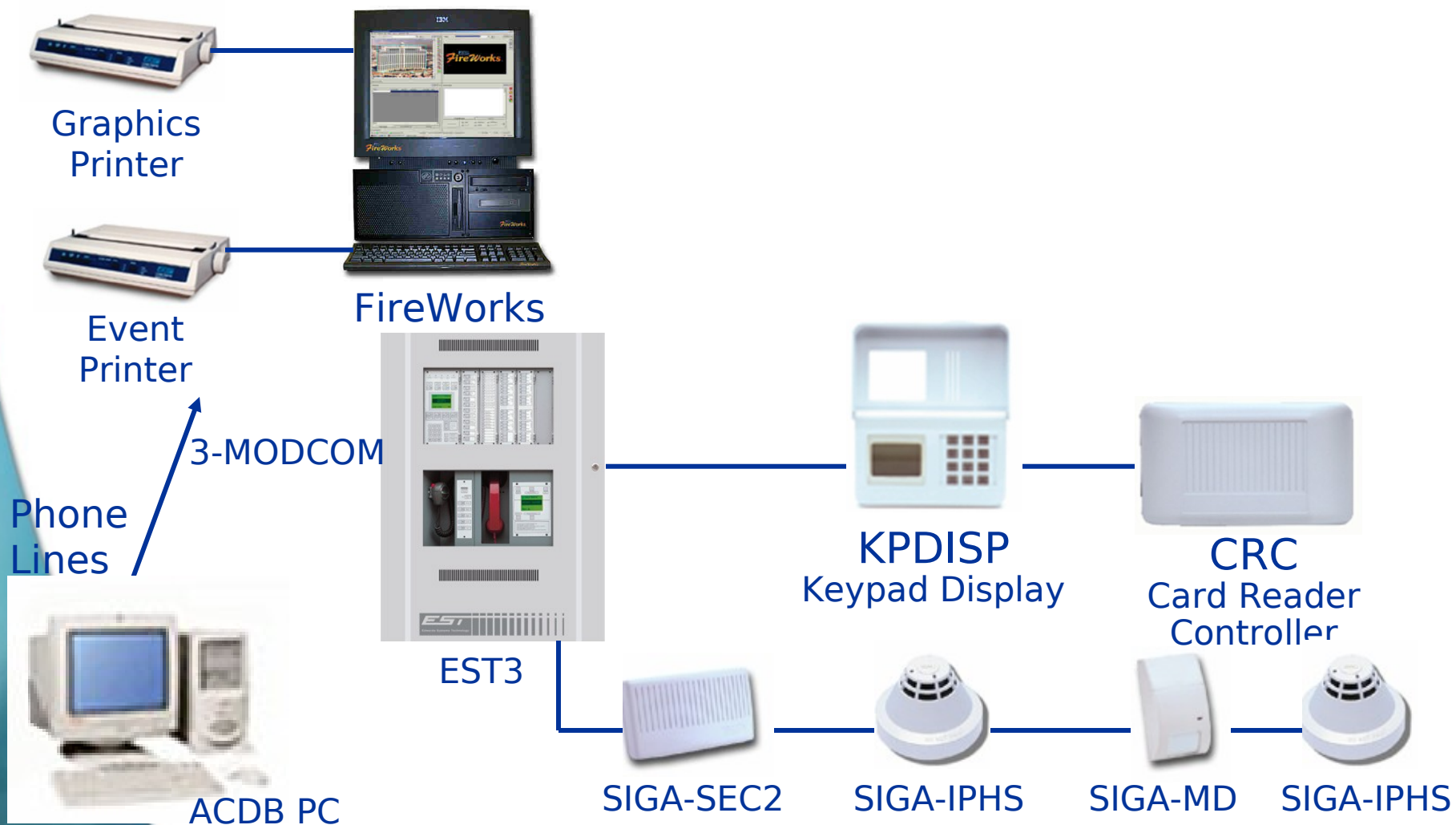**Modem Communicator**

EST3

SIGA-IPHS   SIGA-IPHS

SYNERGY enabled
Adding Access Control

3-SAC
Security Access Control Module

Phone Lines

3-MODCOM

EST3

CRC
Card Reader Controller

CRC
Card Reader Controller

ACDB PC

SIGA-IPHS

SIGA-IPHS

SYNERGY enabled Adding Security

Graphics
Printer

FireWorks

Event
Printer

3-MODCOM

Phone
Lines

EST3

ACDB PC

KPDISP
Keypad Display

CRC
Card Reader
Controller

SIGA-SEC2   SIGA-IPHS   SIGA-MD   SIGA-IPHS

SYNERGY enabled Adding CCTV

Graphics Printer

Event Printer

3-MODCOM

Phone Lines

ACDB PC

FireWorks

Monitors

Controller

Joystick

Cameras

EST3

KPDISP
Keypad Display

CRC
Card Reader Controller

SIGA-SEC2   SIGA-IPHS   SIGA-MD   SIGA-IPHS

Thank You!